

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference

**SGF1708/2PCT**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/FR2005/000020**

International filing date (day/month/year)

**06.01.2005**

Priority date (day/month/year)

**07.01.2004**

International Patent Classification (IPC) or both national classification and IPC

**A23L1/30, A23L1/29**

Applicant

**REALDYME**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☒

This opinion has been established on the basis of a translation from the original language into the following language

\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

International application No.  
PCT/FR2005/000020

Form PCT/ISA/237 (Box No. V) (January 2004)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

V.2.1 None of the documents cited mentions the use of vegetable fibres in the form of microparticles with a size of less than 700 microns. Consequently, the subject matter of all of the claims (1-14), which includes this restriction, is novel (PCT Article 33(2)).

V.2.2 Documents D1-D3 describe the use of fibres of vegetable origin to reduce the bioavailability of mycotoxins. D1 concerns vegetable fibres that can be used in powder form. D2 concerns fibres of cereals (oats and wheat) or alfalfa, in a form that allows them to be incorporated into a feed for laboratory animals. In D3, a dehydrated alfalfa flour is used. Consequently, the use of vegetable fibres in powder form to reduce the bioavailability of hydrophobic mycotoxins is well established in the prior art. However, the invention seems to reside in the discovery that the **micronisation** of these fibres makes it possible to substantially improve their effectiveness; this is not suggested in any document of the prior art.

Whilst the term "micronisation" does not make it possible to characterize the precise size of the fibre particles thus produced, it seems to be widely accepted that it is a size in the order of a few microns (see also claim 10). In the absence of experimental data that would make it possible to conclude that the effect obtained by micronisation also applies to the use of larger-sized particles, only the subject matter of claims 4 and 10 is considered to involve an inventive step (PCT Article 33(3)).

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

V.3 The subject matter of all the claims is industrially  
applicable (PCT Article 33(4)).

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To:

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(PCT Rule 43bis.1)

To:		Date of mailing (day/month/year)	<b>See form PCT/ISA/210</b>
Applicant's or agent's file reference <b>SGF1708/2PCT</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. <b>PCT/FR2005/000020</b>	International filing date (day/month/year) <b>06.01.2005</b>	Priority date (day/month/year) <b>07.01.2004</b>	
International Patent Classification (IPC) or both national classification and IPC <b>A23L1/30, A23L1/29</b>			
Applicant <b>REALDYME</b>			

1. This opinion contains indications relating to the following items:

- |                                     |              |                                                                                                                                                                      |
|-------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion                                                                                                                                                 |
| <input type="checkbox"/>            | Box No. II   | Priority                                                                                                                                                             |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability                                                                     |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention                                                                                                                                           |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited                                                                                                                                              |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application                                                                                                                     |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application                                                                                                                |

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Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Applicant

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1. This opinion contains indications relating to the following items:

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INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

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☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

International application No.  
PCT/FR2005/000020

Form PCT/ISA/237 (Box No. V) (January 2004)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

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Whilst the term "micronisation" does not make it possible to characterize the precise size of the fibre particles thus produced, it seems to be widely accepted that it is a size in the order of a few microns (see also claim 10). In the absence of experimental data that would make it possible to conclude that the effect obtained by micronisation also applies to the use of larger-sized particles, only the subject matter of claims 4 and 10 is considered to involve an inventive step (PCT Article 33(3)).

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2005/000020

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

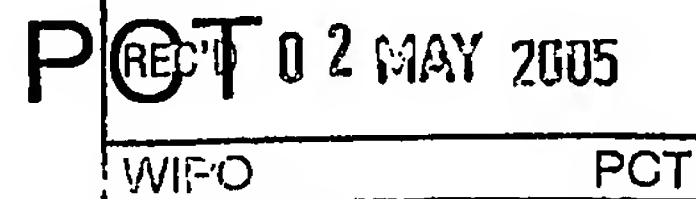
V.3 The subject matter of all the claims is industrially  
applicable (PCT Article 33(4)).

# TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

Expéditeur : L'ADMINISTRATION CHARGÉE DE  
LA RECHERCHE INTERNATIONALE

Destinataire :

voir le formulaire PCT/ISA/220



OPINION ÉCRITE DE L'ADMINISTRATION  
CHARGÉE DE LA RECHERCHE  
INTERNATIONALE

(règle 43bis.1 du PCT)

Date d'expédition  
(jour/mois/année) voir le formulaire PCT/ISA/210 (deuxième feuille)

Référence du dossier du déposant ou du mandataire  
voir le formulaire PCT/ISA/220

**POUR SUITE À DONNER**  
Voir le point 2 ci-dessous

Demande internationale No.  
PCT/FR2005/000020

Date du dépôt international (jour/mois/année)  
06.01.2005

Date de priorité (jour/mois/année)  
07.01.2004

Classification internationale des brevets (CIB) ou à la fois classification nationale et CIB  
A23L1/30, A23L1/29

Déposant  
REALDYME

1. La présente opinion contient des indications et les pages correspondantes relatives aux points suivants :

- ☒ Cadre n° I Base de l'opinion
- ☐ Cadre n° II Priorité
- ☐ Cadre n° III Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
- ☐ Cadre n° IV Absence d'unité de l'invention
- ☒ Cadre n° V Déclaration motivée selon la règle 43bis.1(a)(i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
- ☐ Cadre n° VI Certains documents cités
- ☐ Cadre n° VII Irrégularités dans la demande internationale
- ☐ Cadre n° VIII Observations relatives à la demande internationale

2. **SUITE À DONNER**

Si une demande d'examen préliminaire internationale est présentée, la présente opinion sera considérée comme une opinion écrite de l'administration chargée de l'examen préliminaire international, sauf dans le cas où le déposant a choisi une administration différente de la présente administration aux fins de l'examen préliminaire international et que l'administration considérée a notifié au Bureau international, selon la règle 66.1bis.b), qu'elle n'entend pas considérer comme les siennes les opinions écrites de la présente administration chargée de la recherche internationale.

Si, comme cela est indiqué ci-dessus, la présente opinion écrite est considérée comme l'opinion écrite de l'administration chargée de l'examen préliminaire international, le déposant est invité à soumettre à l'administration chargée de l'examen préliminaire international une réponse écrite, avec le cas échéant des modifications, avant l'expiration d'un délai de 3 mois à compter de la date d'envoi du formulaire PCT/ISA/220 ou avant l'expiration d'un délai de 22 mois à compter de la date de priorité, le délai expirant le dernier devant être appliqué.

Pour plus de détails sur les possibilités offertes au déposant, se référer au formulaire PCT/ISA/220.

3. Pour de plus amples détails, se référer aux notes relatives au formulaire PCT/ISA/220.

Nom et adresse postale de l'administration chargée de la  
recherche internationale



Office européen des brevets  
D-80298 Munich  
Tél. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Fonctionnaire autorisé

Couzy, F

N° de téléphone +49 89 2399-7503



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**Cadre n° I Base de l'opinion**

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1. En ce qui concerne la **langue**, la présente opinion a été établie sur la base de la demande internationale dans la langue dans laquelle elle a été déposée, sauf indication contraire donnée sous ce point.  
☐ La présente opinion a été établie sur la base d'une traduction de la langue dans laquelle la demande internationale a été déposée dans la langue suivante , qui est la langue de la traduction remise aux fins de la recherche internationale (selon les règles 12.3 et 23.1.b)).
2. En ce qui concerne **la ou les séquences de nucléotides ou d'acides aminés** divulguées dans la demande internationale, le cas échéant, la recherche internationale a été effectuée sur la base des éléments suivants :
  - a. Nature de l'élément :  
☐ un listage de la ou des séquences  
☐ un ou des tableaux relatifs au listage de la ou des séquences
  - b. Type de support :  
☐ sur papier sous forme écrite  
☐ sur support électronique sous forme déchiffrable par ordinateur
  - c. Moment du dépôt ou de la remise :  
☐ contenu(s) dans la demande internationale telle que déposée  
☐ déposé(s) avec la demande internationale, sous forme déchiffrable par ordinateur  
☐ remis ultérieurement à la présente administration aux fins de la recherche
3. ☐ De plus, lorsque plus d'une version ou d'une copie d'un listage des séquences ou d'un ou plusieurs tableaux y relatifs a été déposée, les déclarations requises selon lesquelles les informations fournies ultérieurement ou au titre de copies supplémentaires sont identiques à celles initialement fournies et ne vont pas au-delà de la divulgation faite dans la demande internationale telle que déposée initialement, selon le cas, ont été remises.
4. Commentaires complémentaires :

**OPINION ÉCRITE DE L'ADMINISTRATION  
CHARGÉE DE LA RECHERCHE INTERNATIONALE**

Demande internationale n°  
PCT/FR2005/000020

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**Cadre n° V Déclaration motivée selon la règle 43*bis*.1(a)(i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration**

---

**1. Déclaration**

Nouveauté	Oui :	Revendications	1-14
	Non :	Revendications	
Activité inventive	Oui :	Revendications	4, 10
	Non :	Revendications	1-3,5-9,11-14
Possibilité d'application industrielle	Oui :	Revendications	1-14
	Non :	Revendications	

**2. Citations et explications**

**voir feuille séparée**

Concernant le point V

**Déclaration motivée quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration**

V.1 Il est fait référence aux documents suivants:

- D1: US-A-4 770 880 (KADA TSUNEO ET AL) 13 septembre 1988 (1988-09-13)
- D2: SMITH T K: "Influence of dietary fiber, protein and zeolite on zearalenone toxicosis in rats and swine" JOURNAL OF ANIMAL SCIENCE, NEW YORK, NY, US, vol. 50, no. 2, 1980, pages 278-285, XP002117553 ISSN: 0021-8812
- D3: CARSON MS, SMITH TK: "Effect of feeding alfalfa and refined plant fibers on the toxicity and metabolism of T-2 toxin in rats" JOURNAL OF NUTRITION, vol. 113, 1983, pages 304-313, XP009035132
- D4: FRAPE DL, WAYMAN BJ, TUCK MG, JONES E: "The effects of gum arabic, wheat offal and various of its fractions on the metabolism of <sup>14</sup>C-labelled aflatoxin B1 in the male weanling rat" BRITISH JOURNAL OF NUTRITION, vol. 48, 1982, pages 97-110, XP009035131 UK

V.2 Nouveauté et activité inventive

V.2.1 Aucun des documents cités ne mentionne l'utilisation de fibres végétales sous forme de microparticules dont la taille est inférieure à 700 microns. En conséquence, l'objet de toutes les revendications (1-14), qui comporte cette restriction, est nouveau (Art. 33 (2) PCT).

V.2.2 Les documents D1-D3 décrivent l'utilisation de fibres d'origine végétale pour réduire la biodisponibilité de mycotoxines. Dans D1, il s'agit de fibres de légumes pouvant être utilisées sous forme de poudre. Dans D2, de fibres de céréale (avoine et blé) ou de luzerne, sous une forme leur permettant d'être incorporées dans une alimentation pour animaux de laboratoire. Dans D3, une farine deshydratée de luzerne a été utilisée. En conséquence, l'utilisation de fibres végétales sous forme pulvérulente pour la réduction de la biodisponibilité de mycotoxines hydrophobes est bien établie dans l'art antérieur. Par contre, l'invention semble résider dans la découverte que la **micronisation** de ces fibres permet d'améliorer considérablement leur efficacité; ceci n'est suggéré dans aucun

document de l'état de la technique.

Bien que le terme "micronisation" ne permette pas de caractériser avec précision la taille des particules de fibres ainsi produites, il semble qu'il est communément admis qu'il s'agit d'une taille de l'ordre de quelques microns (voir aussi la revendication 10). En l'absence de données expérimentales permettant de conclure que l'effet obtenu par micronisation s'applique aussi à l'utilisation de particules de taille supérieure, il est donc considéré que seul l'objet des revendications 4 et 10 implique une activité inventive (Art. 33 (3) PCT).

V.3 L'objet de toutes les revendications est susceptible d'application industrielle (Art. 33 (4) PCT).